10.   An audio processing method comprising:

receiving a plurality of input audio signals from a plurality of audio sources;

deriving processed audio signals from the input audio signals;

deriving a combined audio signal from the processed audio signals;

reducing reverberation by controlling the processing of the audio signals in order to maximize a power measure of the combined audio signal; and

non-measurement based controlling the processing for limiting a combined power gain measure of the processed audio signals to a predetermined value.

REMARKS

Claim 1 stands rejected under 35 U.S.C.§112, first paragraph, in light of the "non-measurements based control means" element. Claims 1-4 and 8-10 stand rejected under 35 U.S.C.§102(b) as allegedly being anticipated from the article by Kellermann (U.S. 5,602,962 hereafter "Kellermann"). Claims 5-7 stand rejected under 35 U.S.C.§103(a) as allegedly being obvious over Kellermann in view of Kaneda. (U.S. 4,536,887 hereafter "Kaneda"). Claims 1-10 are in the application. Applicants respectfully submit that the pending claims, as amended, are patentable for at least the following reasons.

In response to the Examiner's arguments regarding 35 U.S.C.§112, first paragraph, applicants respectfully note that a typographical error was included in applicants arguments filed 6/28/2002. The non-measurement based control

means is not element 206 (CDR CIRCUIT 206). In fact, there is no CDR CIRCUIT 206 in the present application. However, the correct section on the specification was provided, and repeated below. In response, Applicants respectfully note page 2, lines 9-21, which states:

"The object of the present invention is to provide an <u>audio processing arrangement</u> in which <u>no measurements have to be performed</u> before deployment of the audio processing arrangement.
To achieve this objective the audio processing arrangement according to the invention is characterized in that the audio processing arrangement comprises control means for controlling the processing means in order to maximize a power measure of the combined audio signal, and in that the control means are arranged for limiting a combined power gain measure of the processed audio signals to a predetermined value.
By maximizing a power measure of the combined audio signal under the constraint that a combined power gain measure (e.g. the sum of the power of the individual signals) is limited to a predetermined value<u>, no use of measured data has to be made</u>. Experiments have shown that the intelligibility of the speech signal is not deteriorated with respect to the prior art arrangement. "

Applicants respectfully submit that one skilled in the art, after reviewing the specification, would able to make and/or use the invention and that the specification is definite. Accordingly, removal of these rejections is respectfully requested.

Amended independent Claim 1 is directed to an audio processing arrangement comprising, a plurality of audio sources generating input audio signals, a processor operable to derive a processed audio signals from the input audio signals, a combiner operable to derive a combined audio signal from the

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processed audio signals; and a non-measurement based controller operable to control the processor in order to maximize a power measure of the combined audio signal, wherein the controller is arranged to limit a combined power gain measure of the processed audio signals to a predetermined value.

Kellermann, as read by the applicants, relates to a speech processing arrangement has at least two microphones for supplying microphone signals formed by speech components and noise components to microphone signal branches that are coupled to an adder device used for forming a sum signal. The microphone signals are delayed and weighted by weight factors in the microphone signal branches. Because the speech signals are correlated and noise signals are uncorrelated, the sum signal available on the output of the adder device has a reduced noise component yielding improved speech audibility.

Kellermann fails to teach, show or disclose a non-measurement based controller operable to control the processor in order to maximize a power measure of the combined audio signal, wherein the controller is arranged to limit a combined power gain measure of the processed audio signals to a predetermined value, as specifically recited in independent claim 1, 8 and 10 respectively.

The MPEP section 2131 provides that a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference. The identical invention must be shown in as complete detail as contained in the claim.

Applicant submits that Kellermann does not satisfy MPEP section 2131 as anticipatory references. Withdrawal of the rejection is respectfully requested with regard to amended independent claims 1, 8 and 10.

A review of the other art of record has failed to reveal anything which, in Applicants' opinion, would remedy the deficiencies of the art discussed above, as a reference against the independent claims herein. These claims are therefore believed patentable over the art of record.

The other claims in this application are each dependent from the independent claim discussed above and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual consideration of the patentability of each on its own merits is respectfully requested.

The applicants submit that the claims fully satisfy the requirements of 35 U.S.C. 102 and 103. In view of the foregoing remarks, favorable reconsideration and early passage to issue of the present application are respectfully solicited.
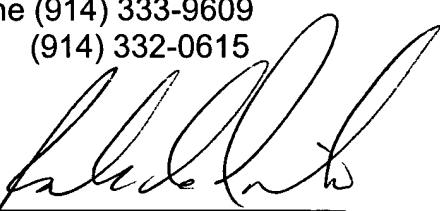
Applicants' undersigned attorney may be reached by telephone at the number given below.

Respectfully submitted,

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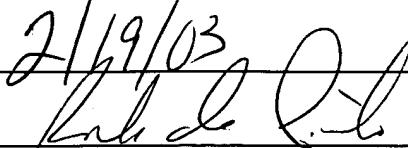
By_____
Rick de Pinho, Reg. 41,703

VERSION WITH MARKING TO SHOW CHANGES MADE

Please amend the claims as follows:

1.   (Amended)Audio processing arrangement comprising:

_____-a plurality of audio sources generating input audio signals;-

_____a processor ing means foroperable to derive inga processed audio signals from the input audio signals;, the audio processing arrangement comprising

_____a combiner ing means foroperable to derive ing a combined audio signal from the processed audio signals; and, wherein the audio processing arrangement comprises

_____a non-measurement based controlcontroller means foroperable to controlling the processor ing means in order to maximize a power measure of the combined audio signal, and in thatwherein the controller means areis arranged to for limiting a combined power gain measure of the processed audio signals to a predetermined value.

2.   (Amended) The Aaudio processing arrangement according to claim 1, characterized in thatwherein the processor ing means compriseincludes a scaling means for scaling the input audio signals with a scaling factor for obtaining the processed audio signal, said controller means includes a comprise further scaling means for deriving a plurality of scaled combined audio signals with a scaling factor corresponding to the scaling factor of the scaling means, and in that the controlcontroller means areis arranged for maximizing a power measure of the combined audio signal, and for limiting a combined power gain measure of the processed audio signals by minimizing a difference between the input audio signals and the scaled combined audio signals corresponding to said audio signals.

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3.	(Amended) The Aaudio processing arrangement according to claim 1, ~~characterized in that~~wherein the process~~ing means comprise~~or includes a plurality of adjustable filters for deriving the processed audio signal, in that the ~~control~~controller ~~means comprise~~includes a plurality of further adjustable filters having a transfer function being the conjugate of the transfer function of the adjustable filters, said further adjustable filters being arranged for deriving from the combined audio signal filtered combined audio signals, and in that the ~~control~~controller ~~means are~~is arranged for maximizing the power measure of the combined audio signal, and for restricting a combined power gain measure of the processed audio signals to a predetermined value by controlling the transfer functions of the adjustable filters and the further adjustable filters in order to minimize a difference measure between the input audio signals and the filtered combined audio signal corresponding to said input audio signals.

4.	(Amended) The Aaudio processing arrangement according to claim 2, ~~characterized in that~~wherein the audio processing arrangement comprises delay elements for compensating a delay difference of a common audio signal present in the input audio signals.

5.	(Amended) The Aaudio processing arrangement according to claim 1, wherein ~~characterized in that~~ the audio sources comprise a plurality of microphones, and in that the microphones are placed in a position such that their directionality patterns are substantially disjunct.

6.	(Amended) The Aaudio processing arrangement according to claim 5, ~~characterized in that~~wherein the microphones are placed around a center position at angles being equal to 360 degrees divided by the number of microphones.

7.	(Amended) The Aaudio processing arrangement according to claim

1, ~~characterized in that~~wherein the audio sources comprise a plurality of microphones being placed in a linear array.

8. (Amended)   An Aaudio signal processing arrangement comprising a plurality of inputs for receiving input audio signals~~-~~, processing means for deriving processed audio signals from the input audio signals, the audio processing arrangement comprising combining means for deriving a combined audio signal from the processed audio signals, wherein the audio processing arrangement comprises a non-measurement based control means for controlling the processing means in order to maximize a power measure of the combined audio signal, and in that the control means are arranged for limiting a combined power gain measure of the processed audio signals to a predetermined value.

11. (Amended)   An Aaudio processing method comprising:
_____receiving a plurality of input audio signals from a plurality of audio sources;
_____~~,~~deriving processed audio signals from the input audio signals;
_____~~,~~deriving a combined audio signal from the processed audio signals;~~, wherein~~
~~the audio processing method comprises~~
_____reducing reverberation by controlling the processing of the audio signals in order to maximize a power measure of the combined audio signal; and~~, and in~~
~~that the method comprises~~
_____non-measurement based controlling the processing for limiting a combined power gain measure of the processed audio signals to a predetermined value.